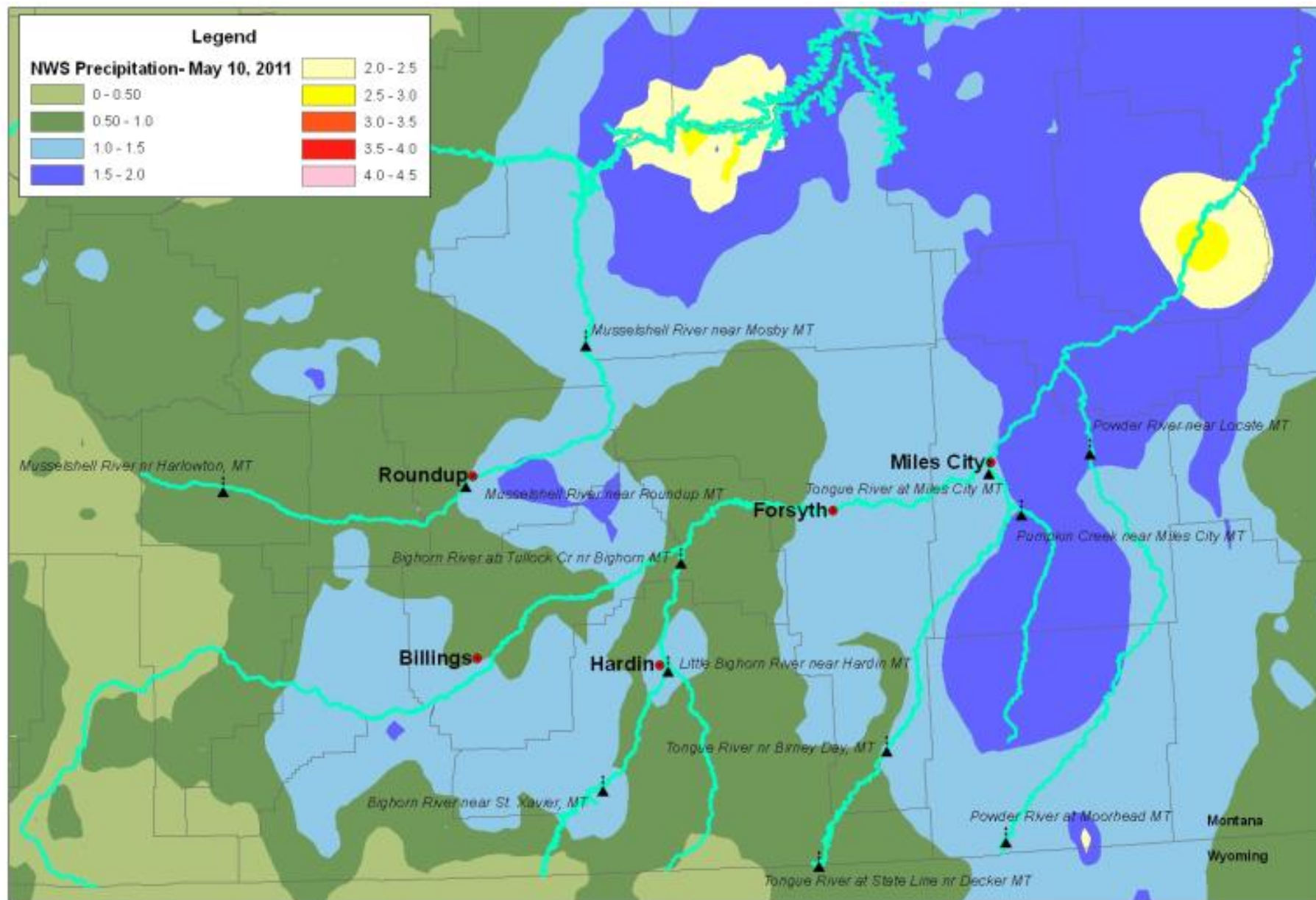


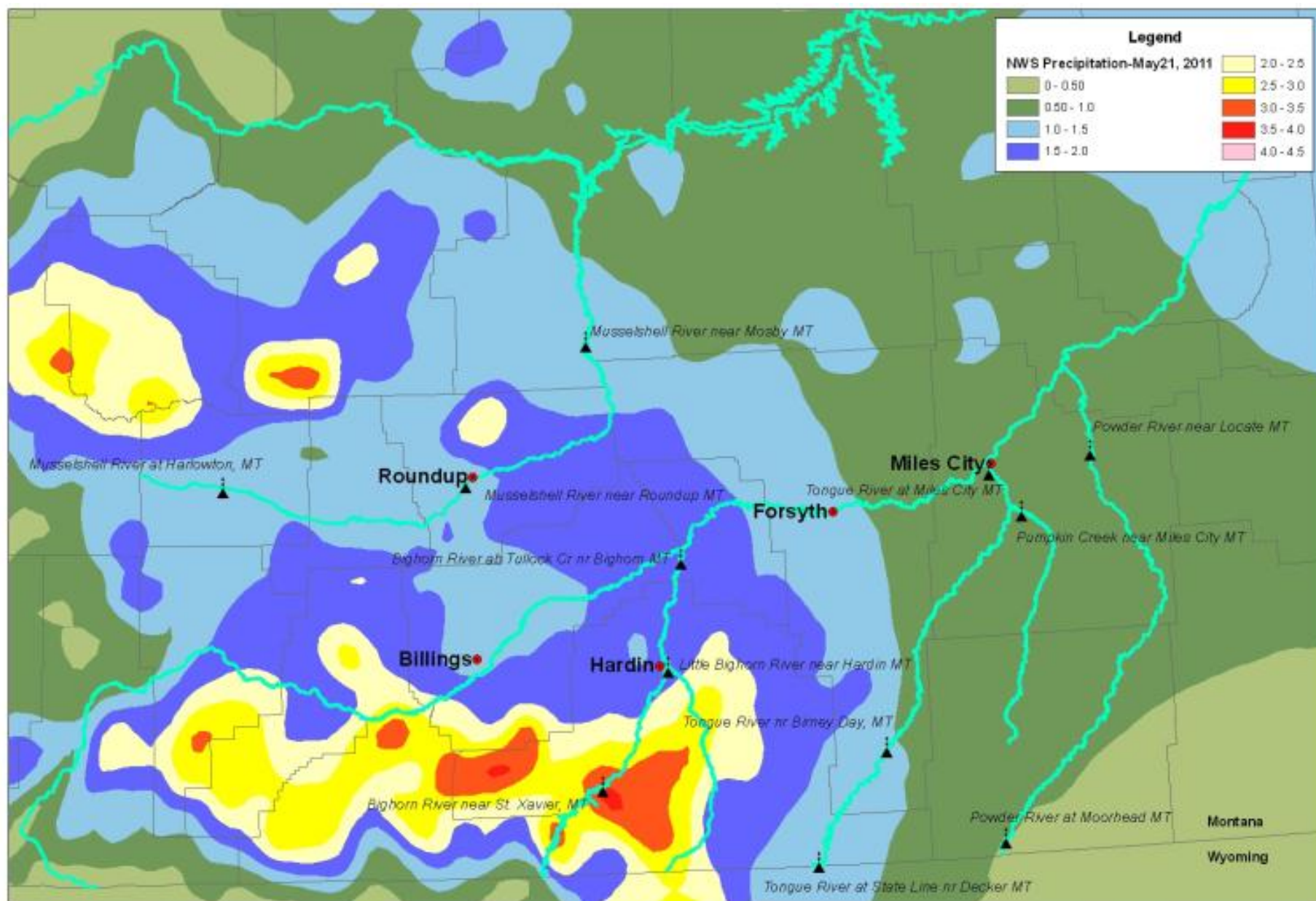
# Precipitation and Resulting Flood Flows from May 2011 Precipitation in Southeast Montana

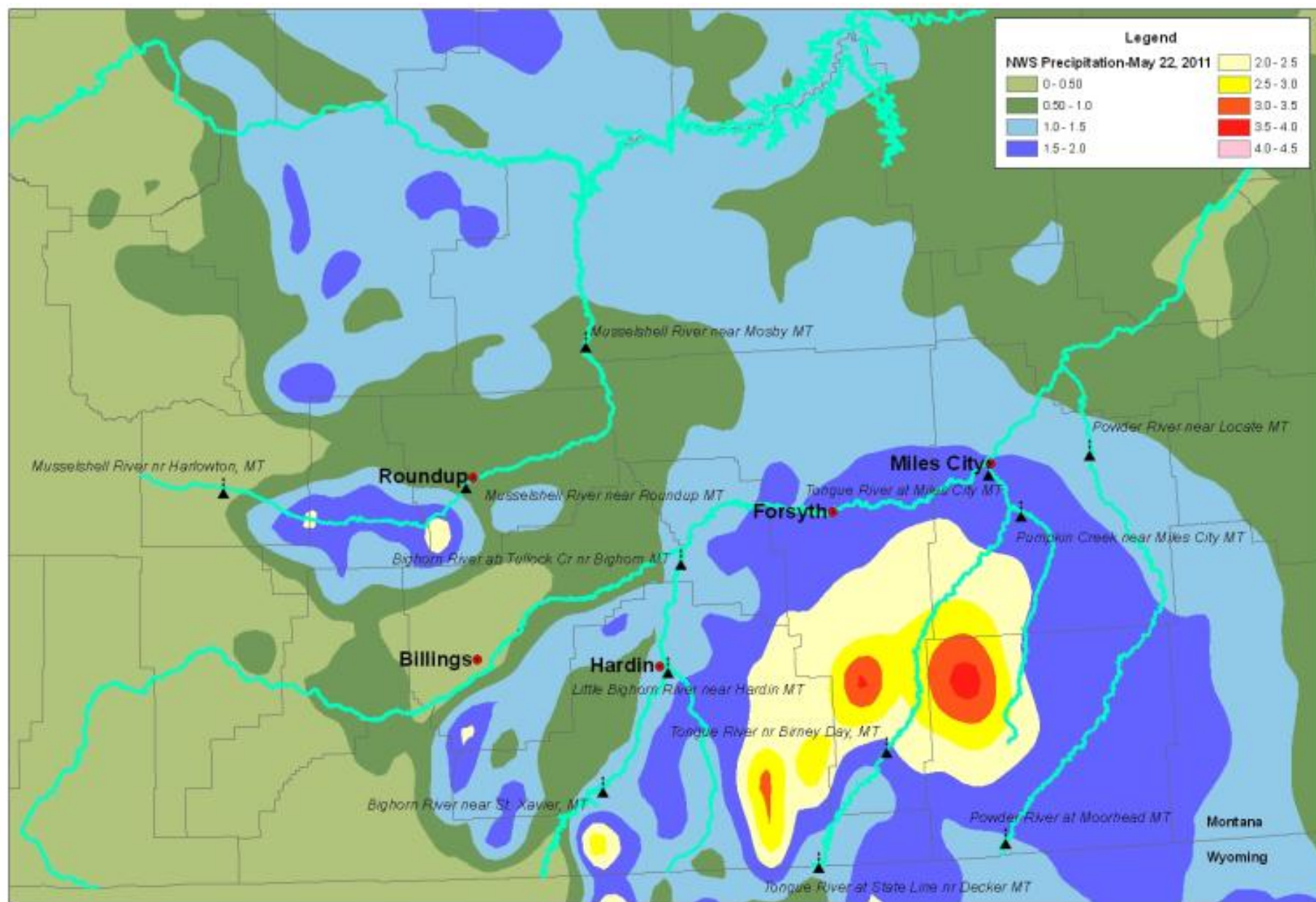
Wayne R. Berkas and

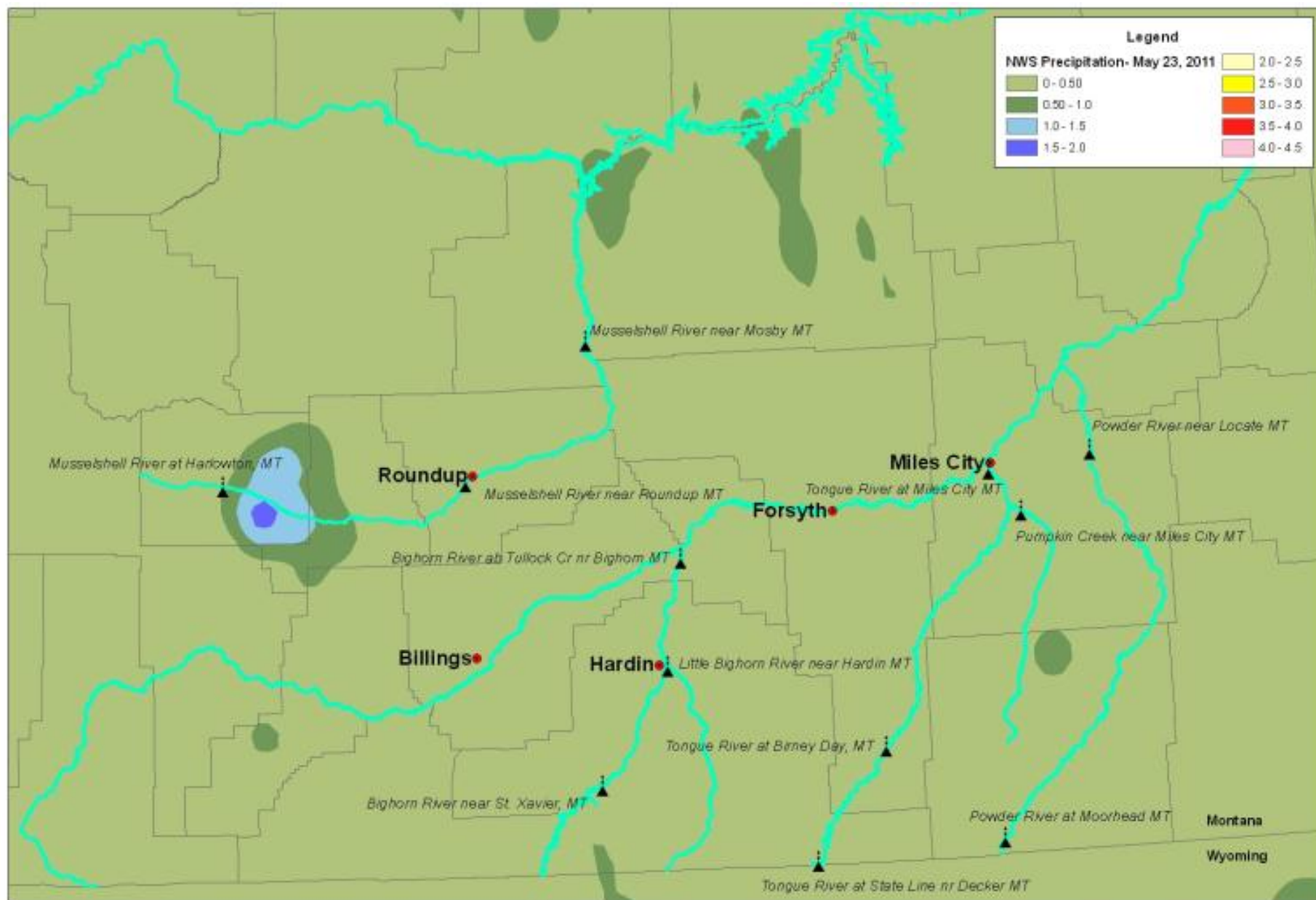
Dennis J. Elliott

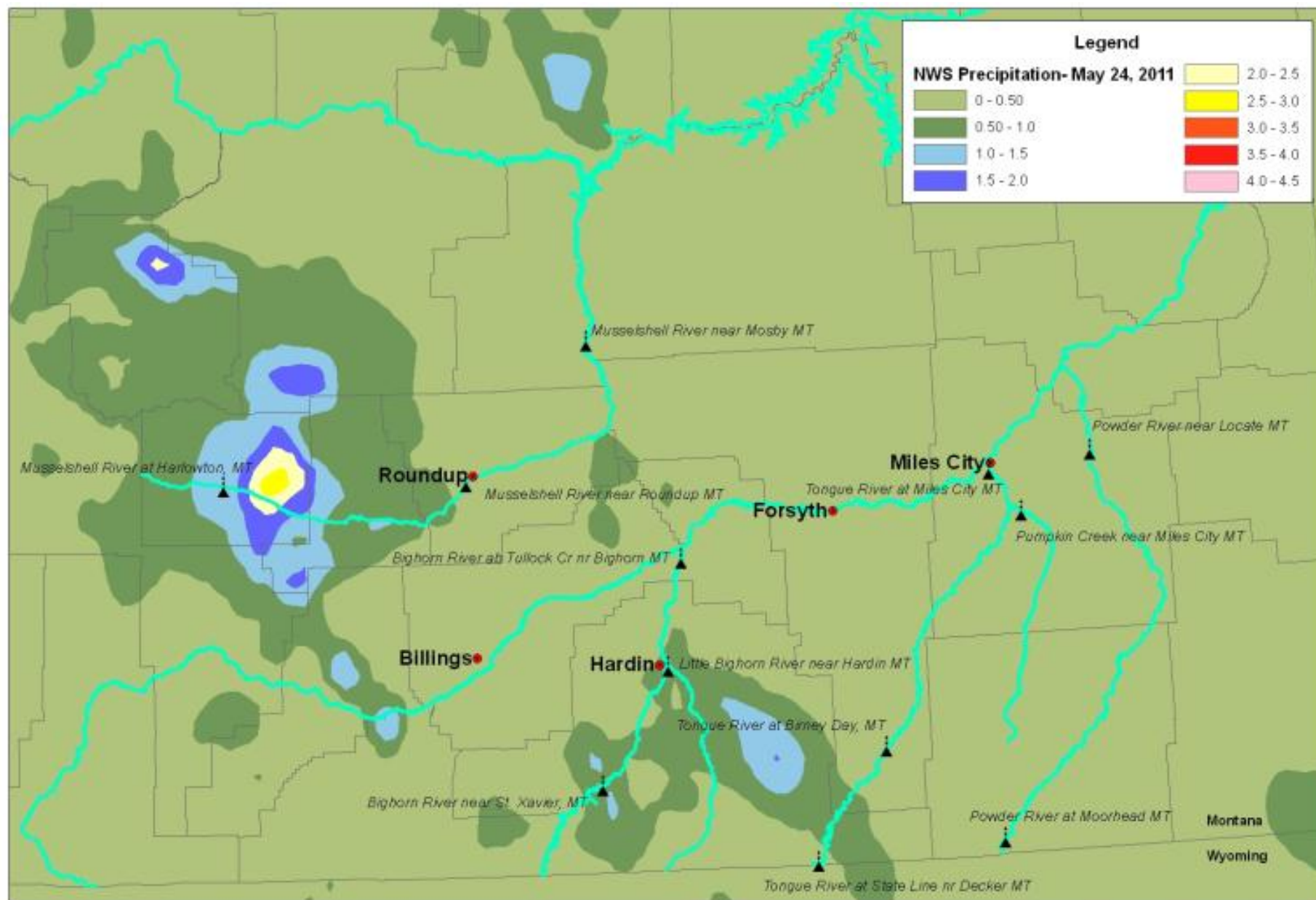
U.S. Geological Survey

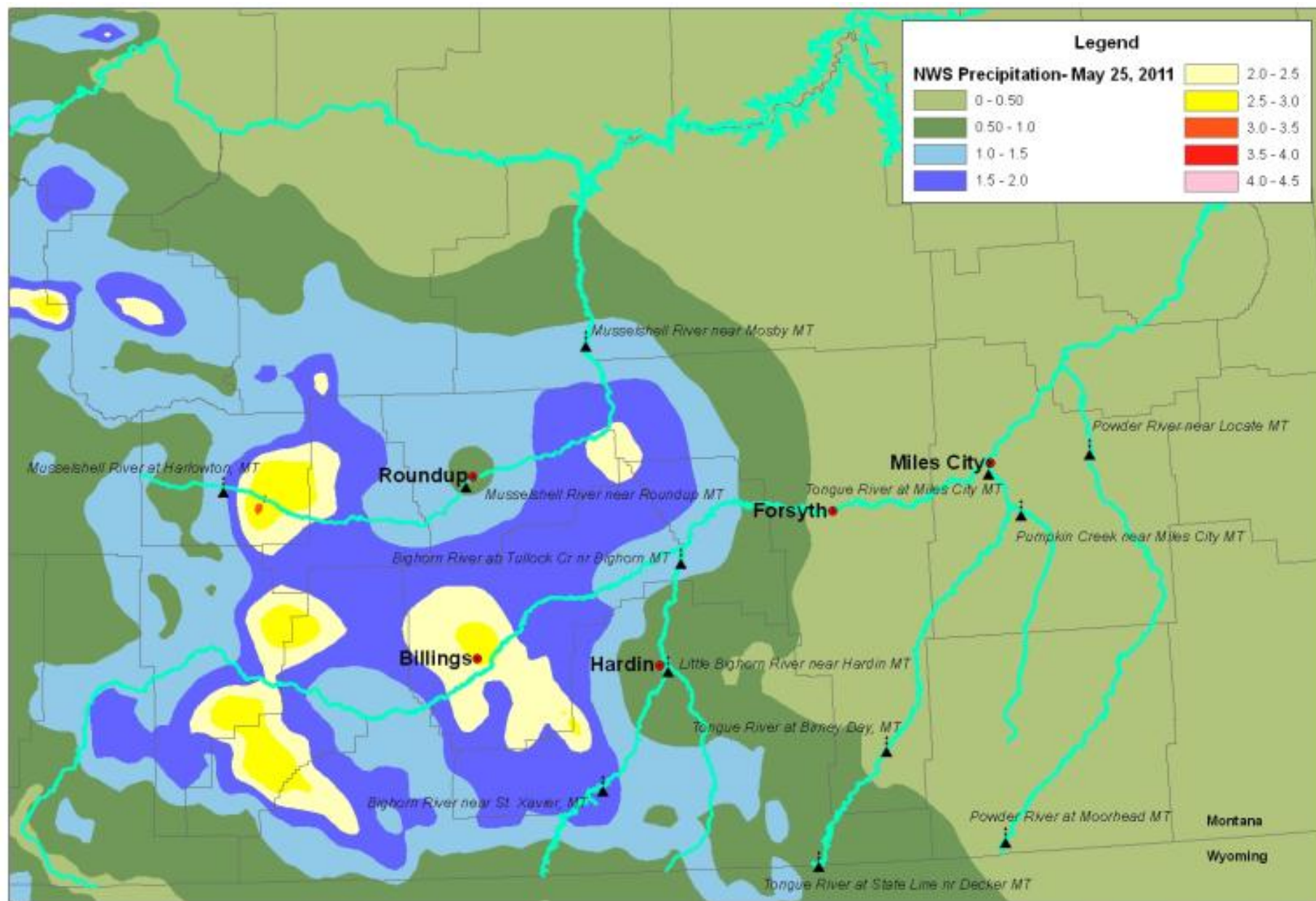




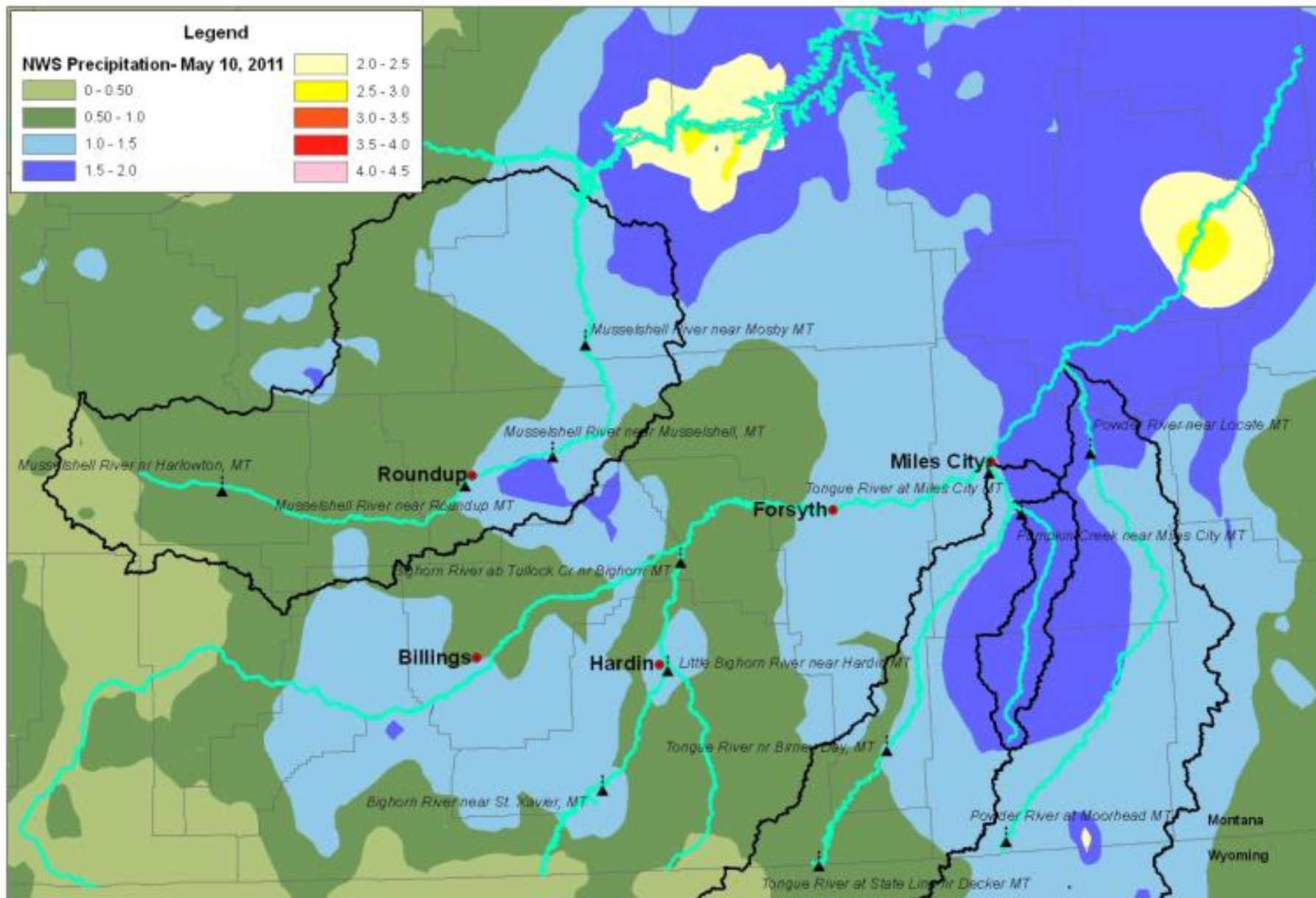




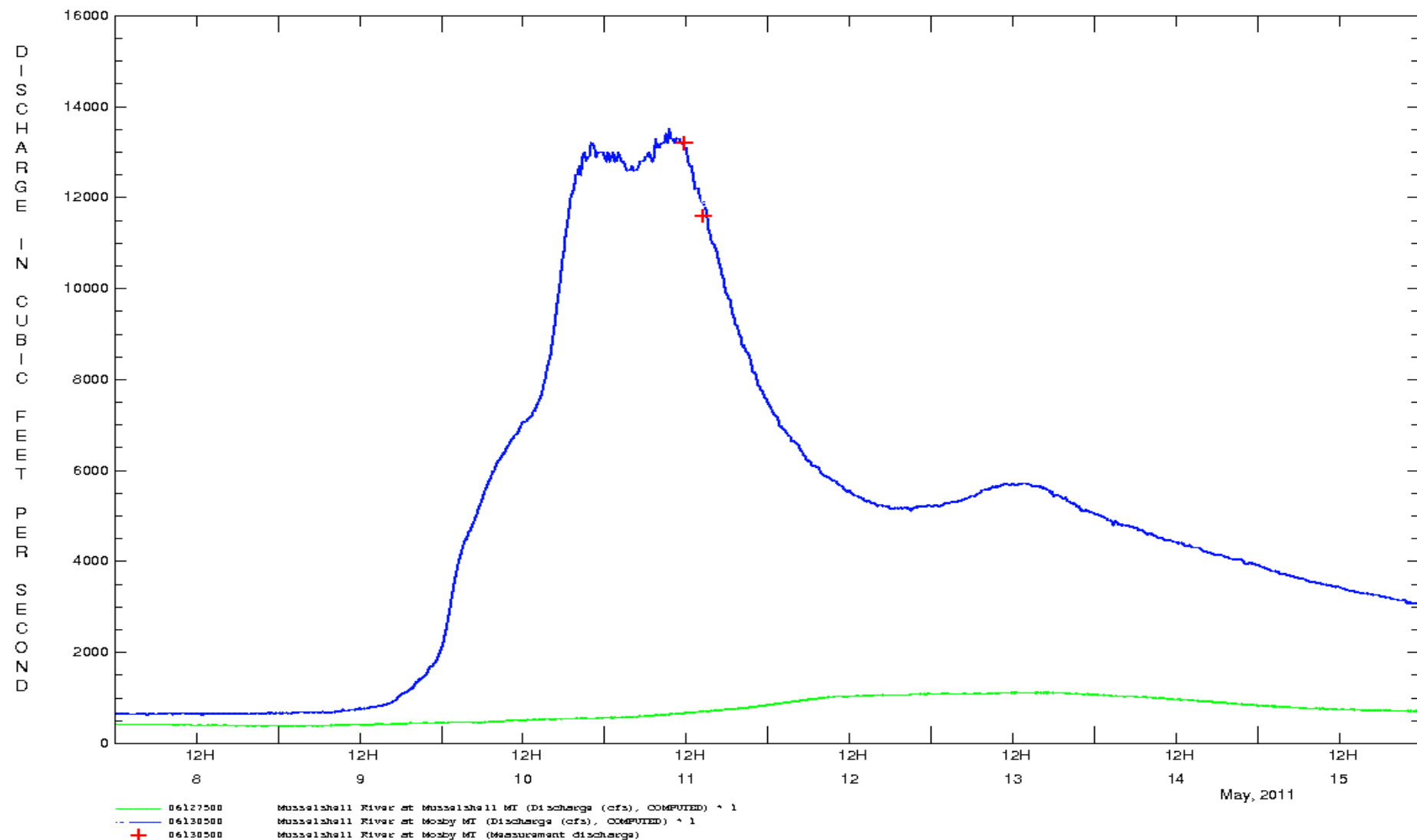




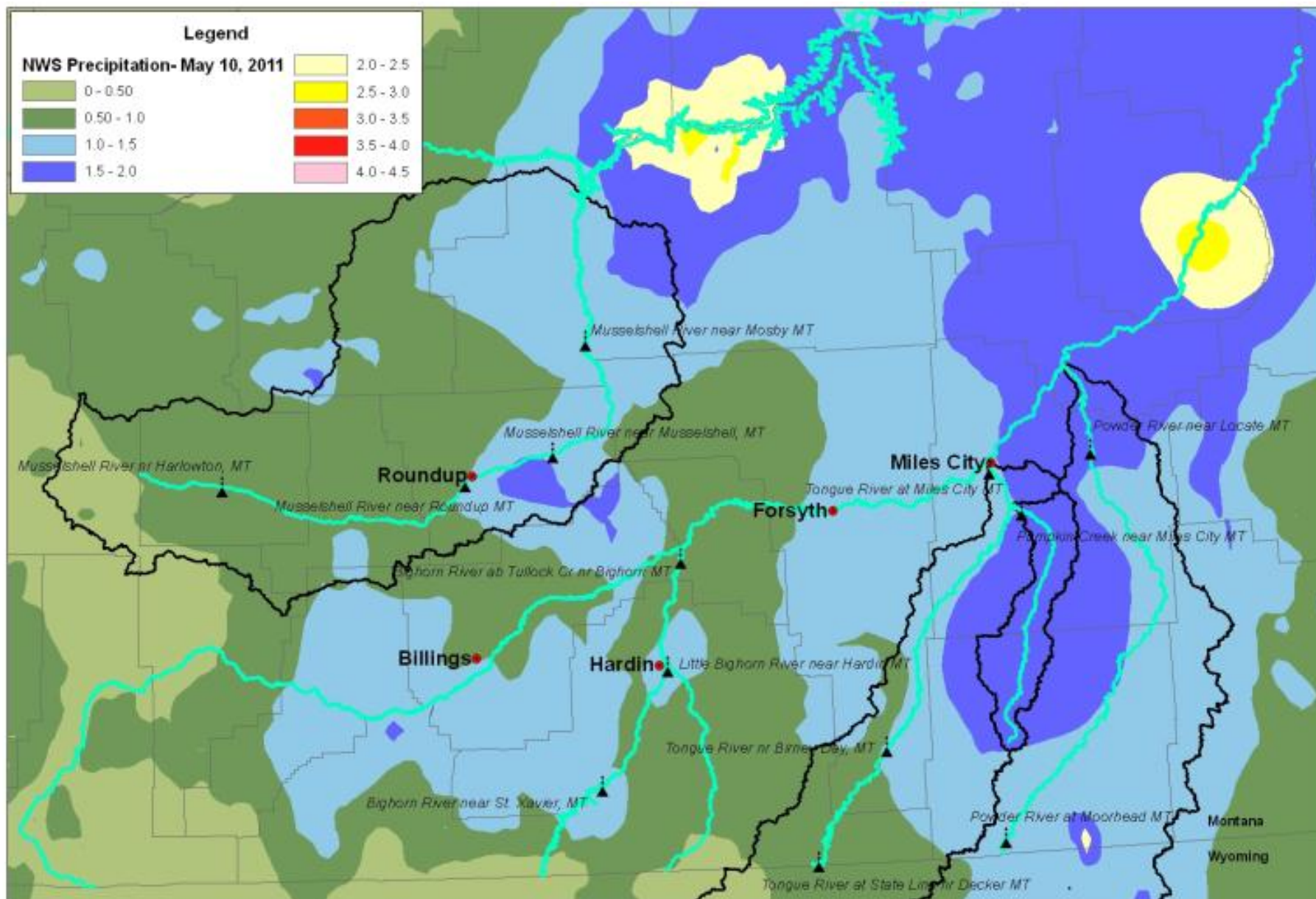
# May 10 Precipitation Event in the Musselshell River Basin



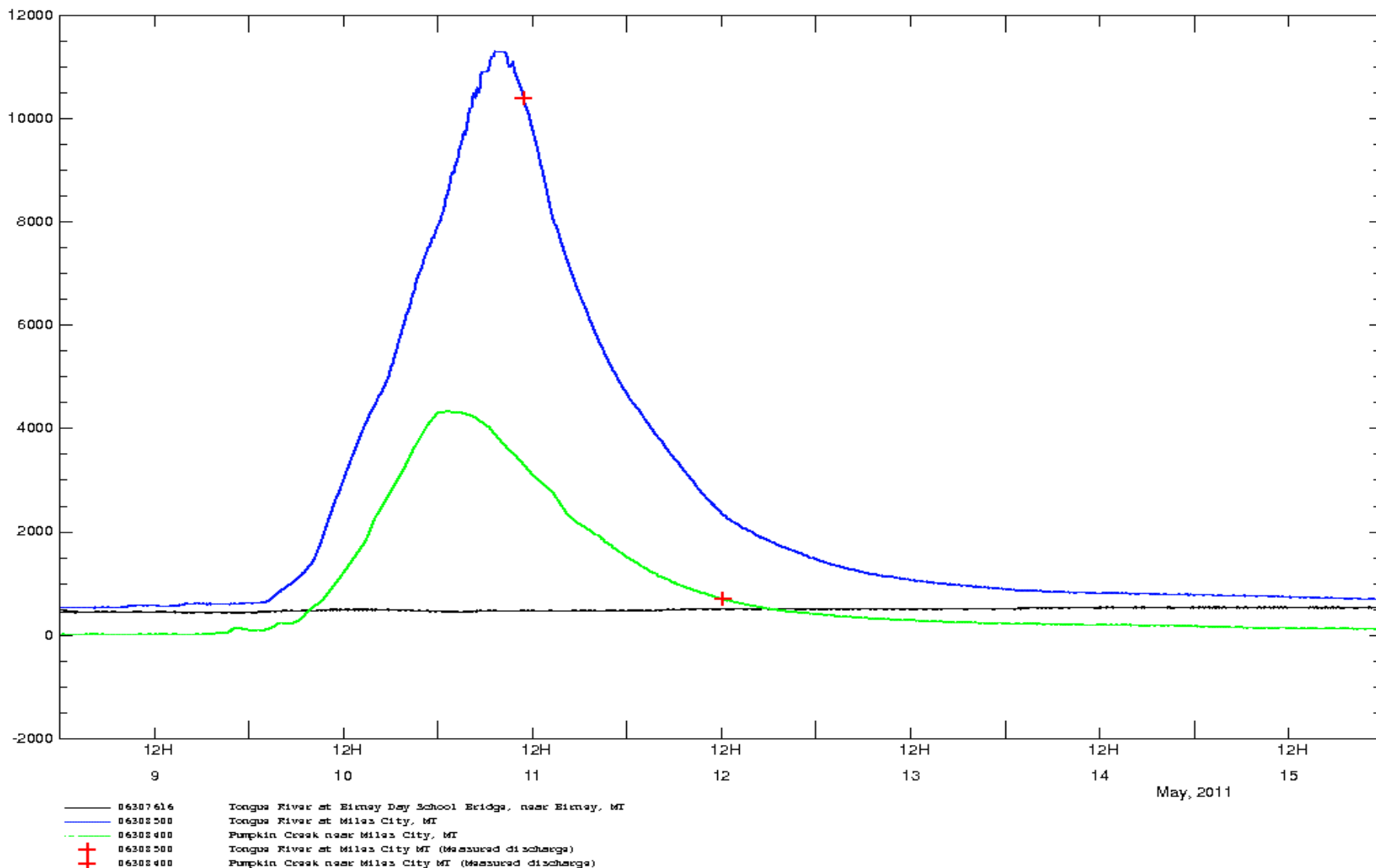
# May 10 runoff event on Musselshell River near Mosby



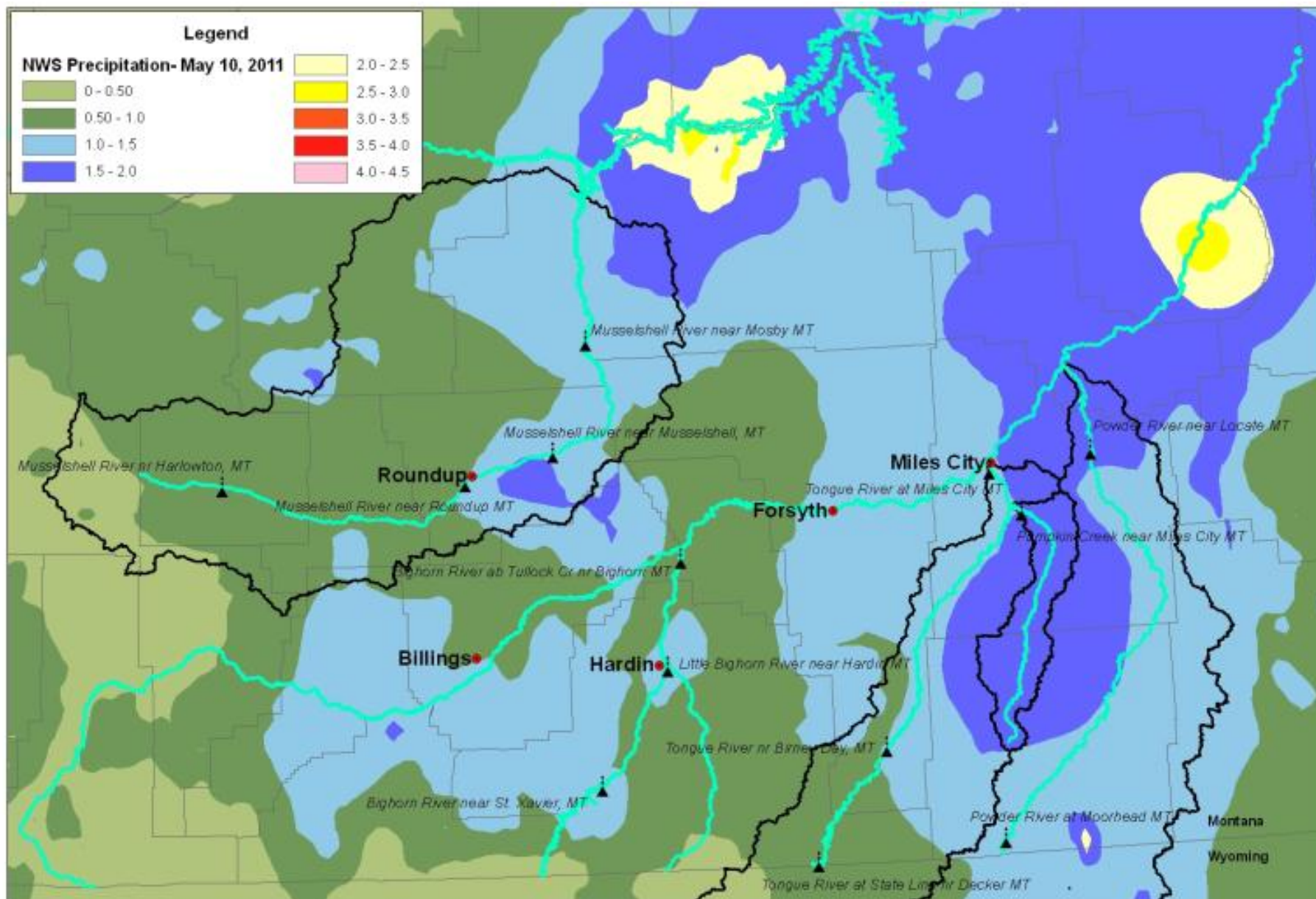
# May 10 Precipitation Event in the Pumpkin Creek and Tongue River Basin



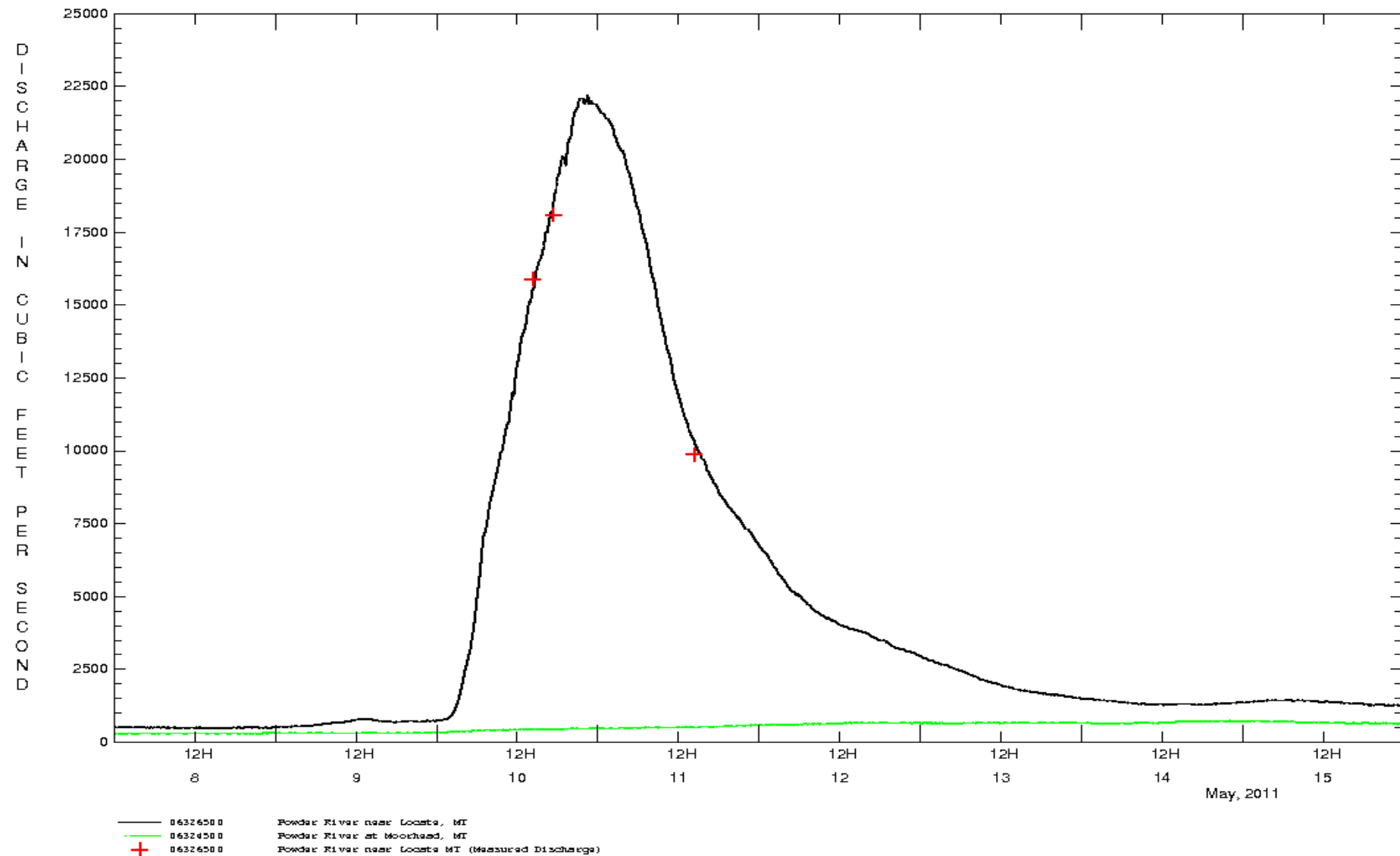
# May 10 runoff event on Pumpkin Creek and Tongue River



# May 10 Precipitation Event in the Powder River Basin



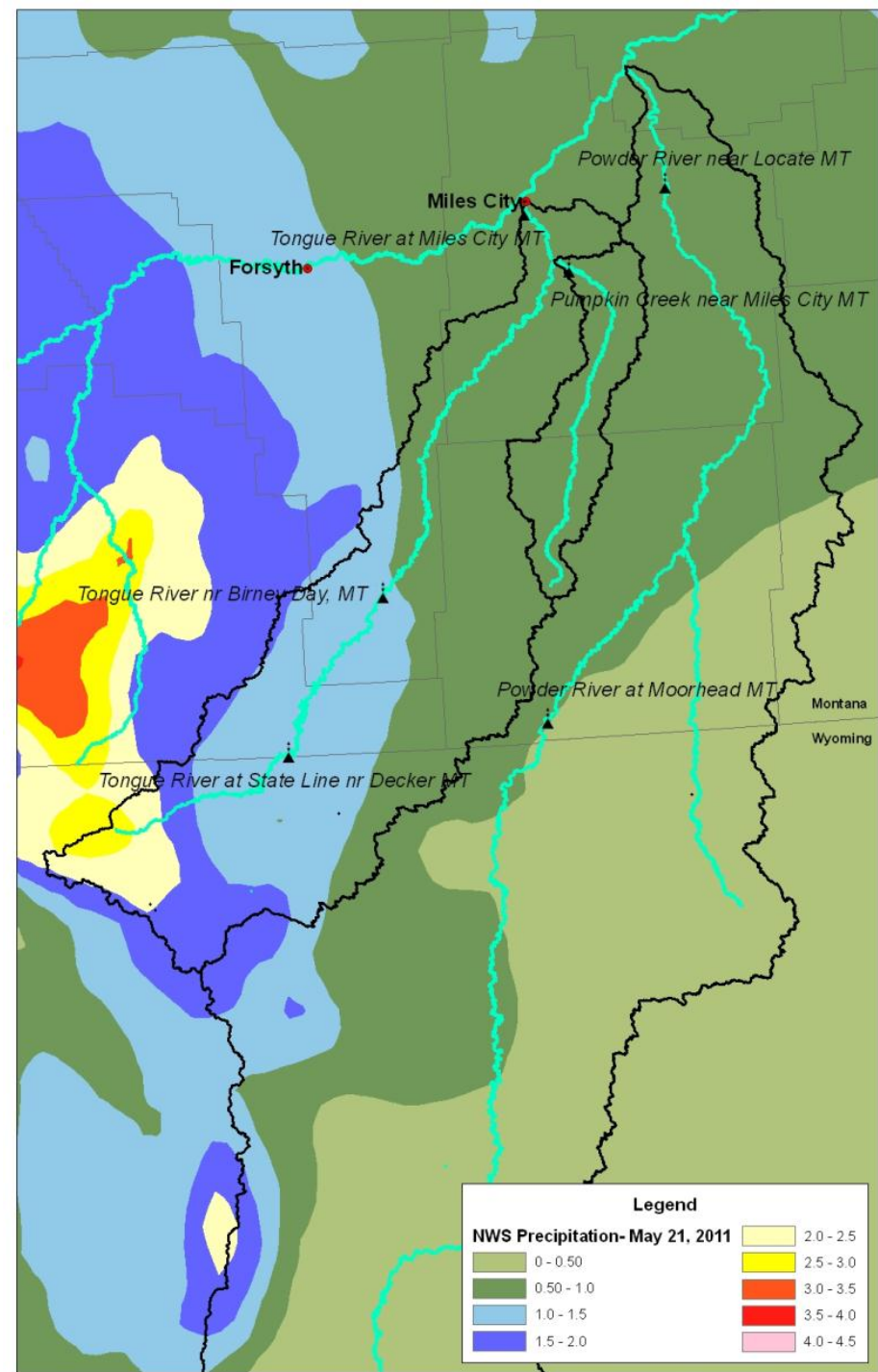
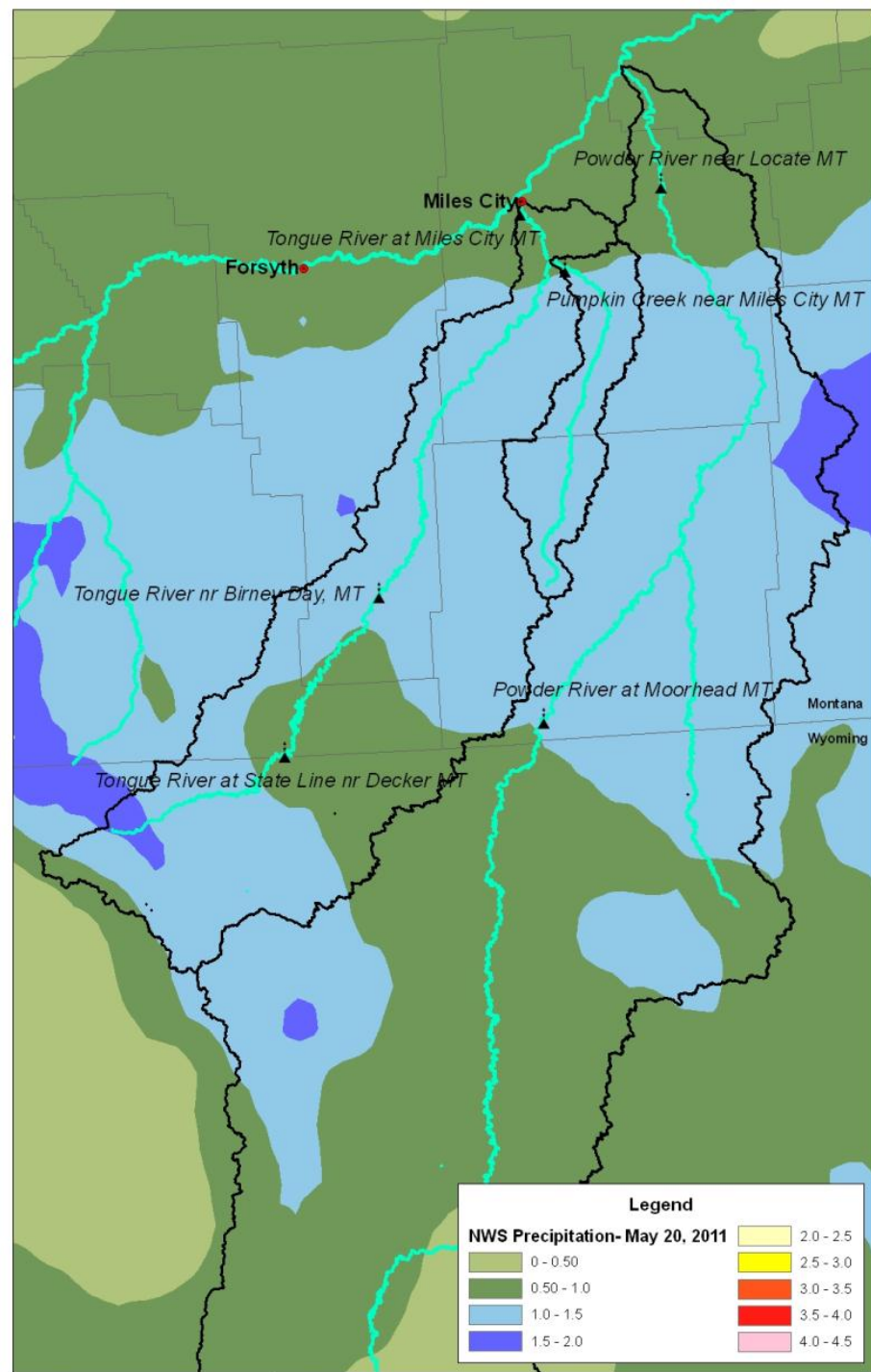
# May 10 runoff event on Powder River

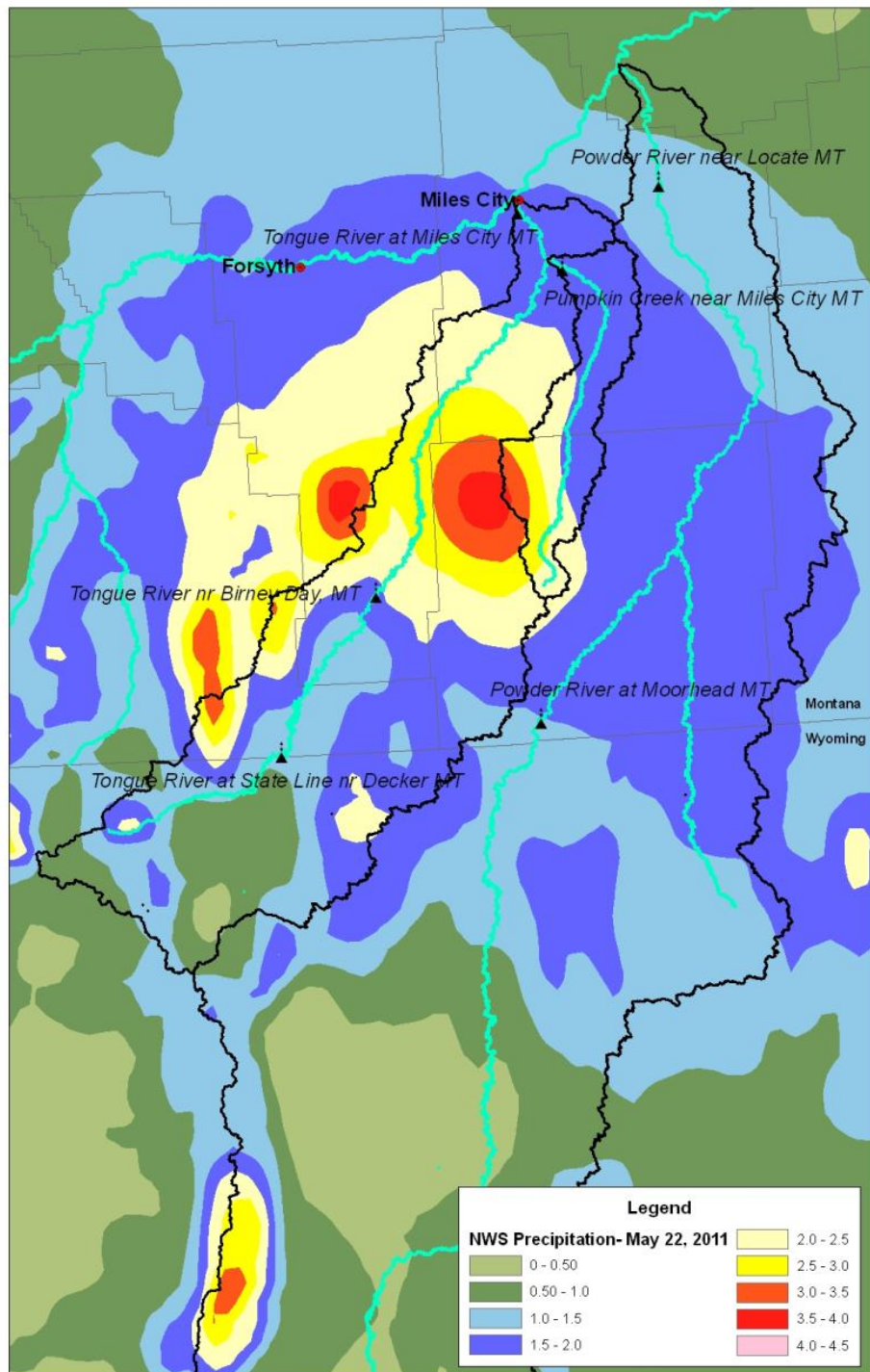


# Powder River near Locate on May 10, 2011

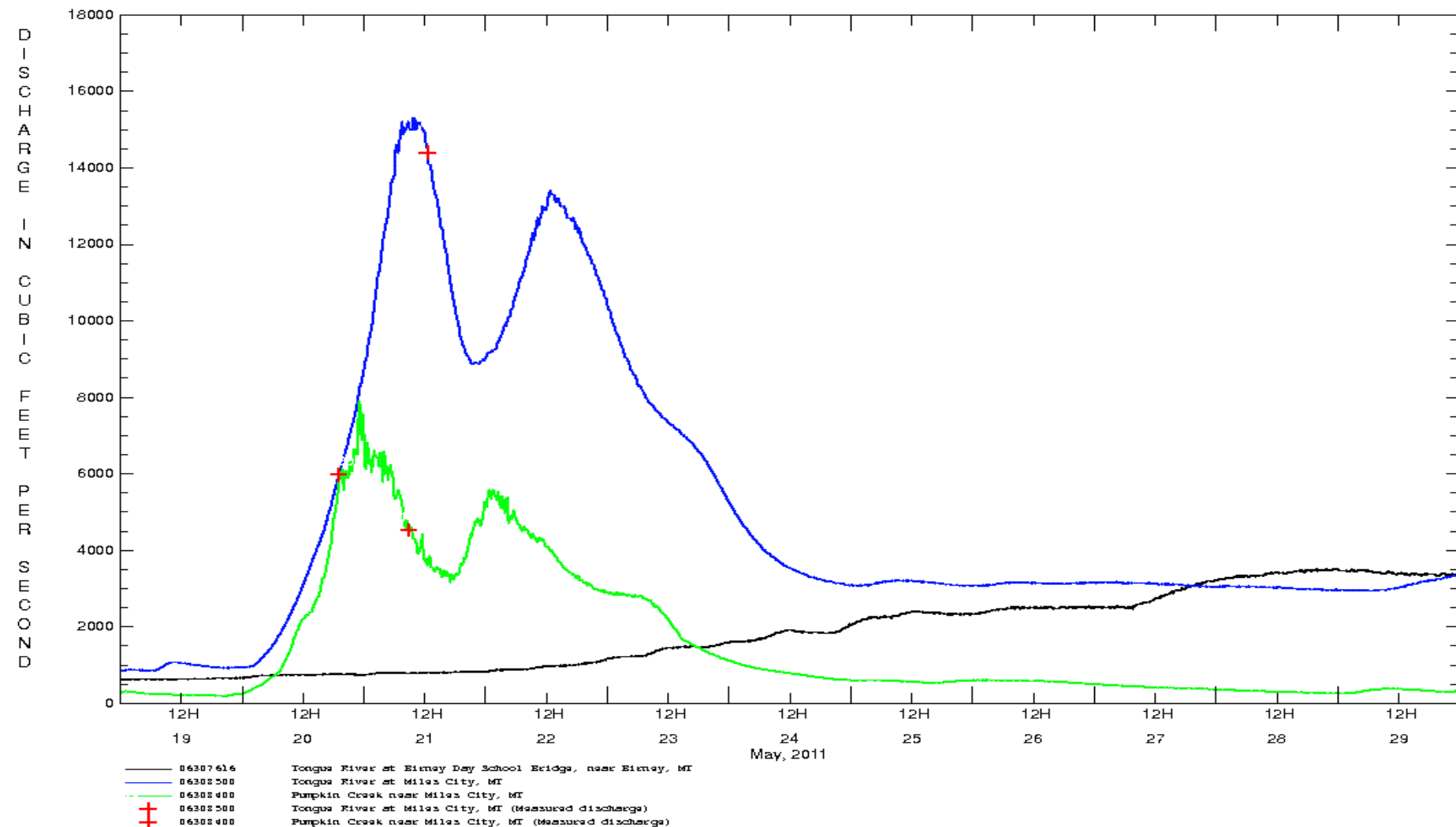


# May 20 - 23 Precipitation Events in Pumpkin Creek, Tongue River and Powder River Basins





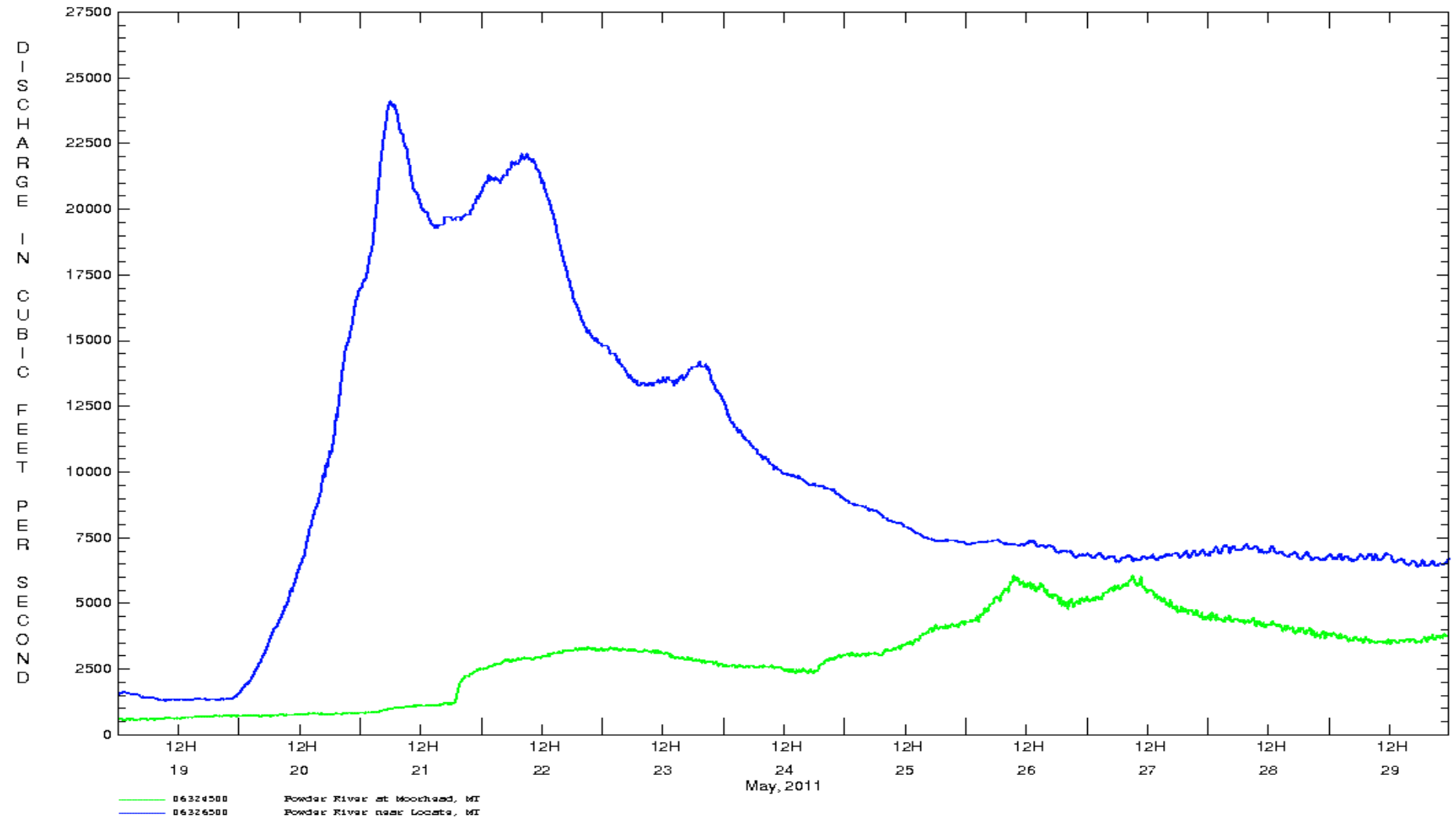
# May 20 runoff event on Tongue River and Pumpkin Creek



Pumpkin Creek near Miles City on May 20, 2011



# May 20 runoff event on the Powder River



# Pumpkin Creek, Tongue River, and Powder River Flows

## Pumpkin Creek near Miles City

7,900 ft<sup>3</sup>/s on May 20, 2011

Highest in 20 years of record

## Tongue River at Miles City

15,300 ft<sup>3</sup>/s on May 21, 2011

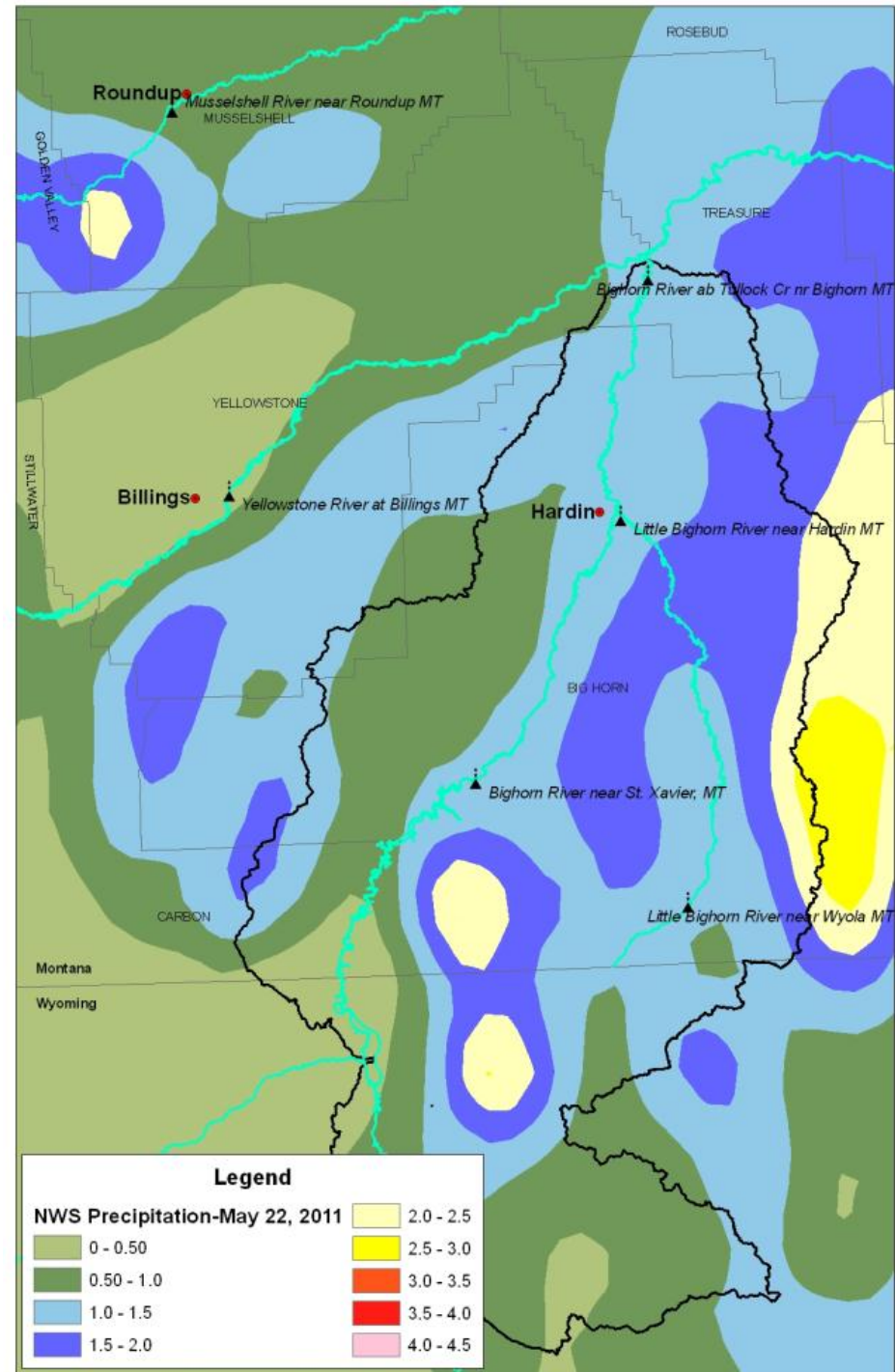
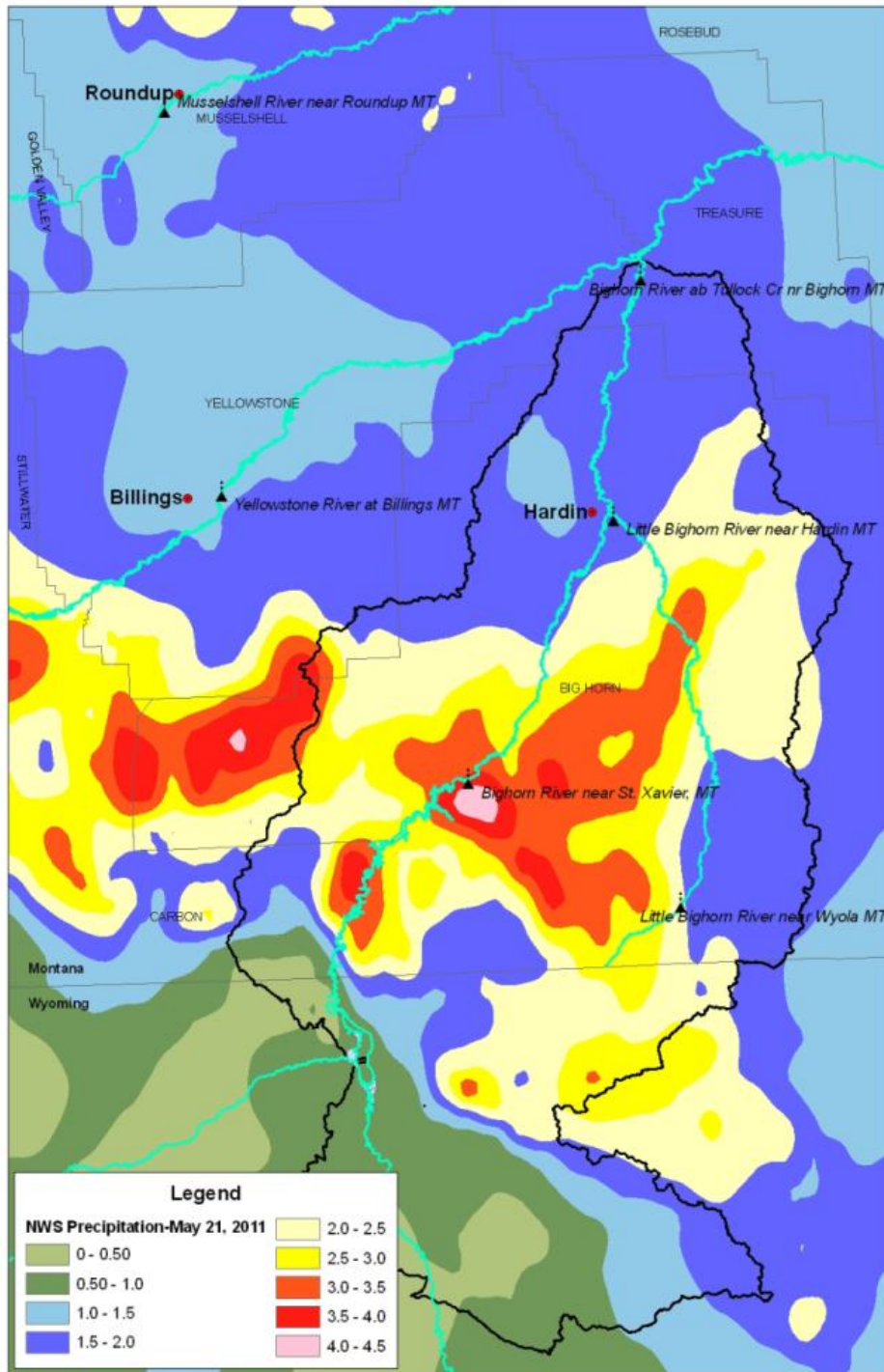
Highest in 69 years of record

## Powder River near Locate

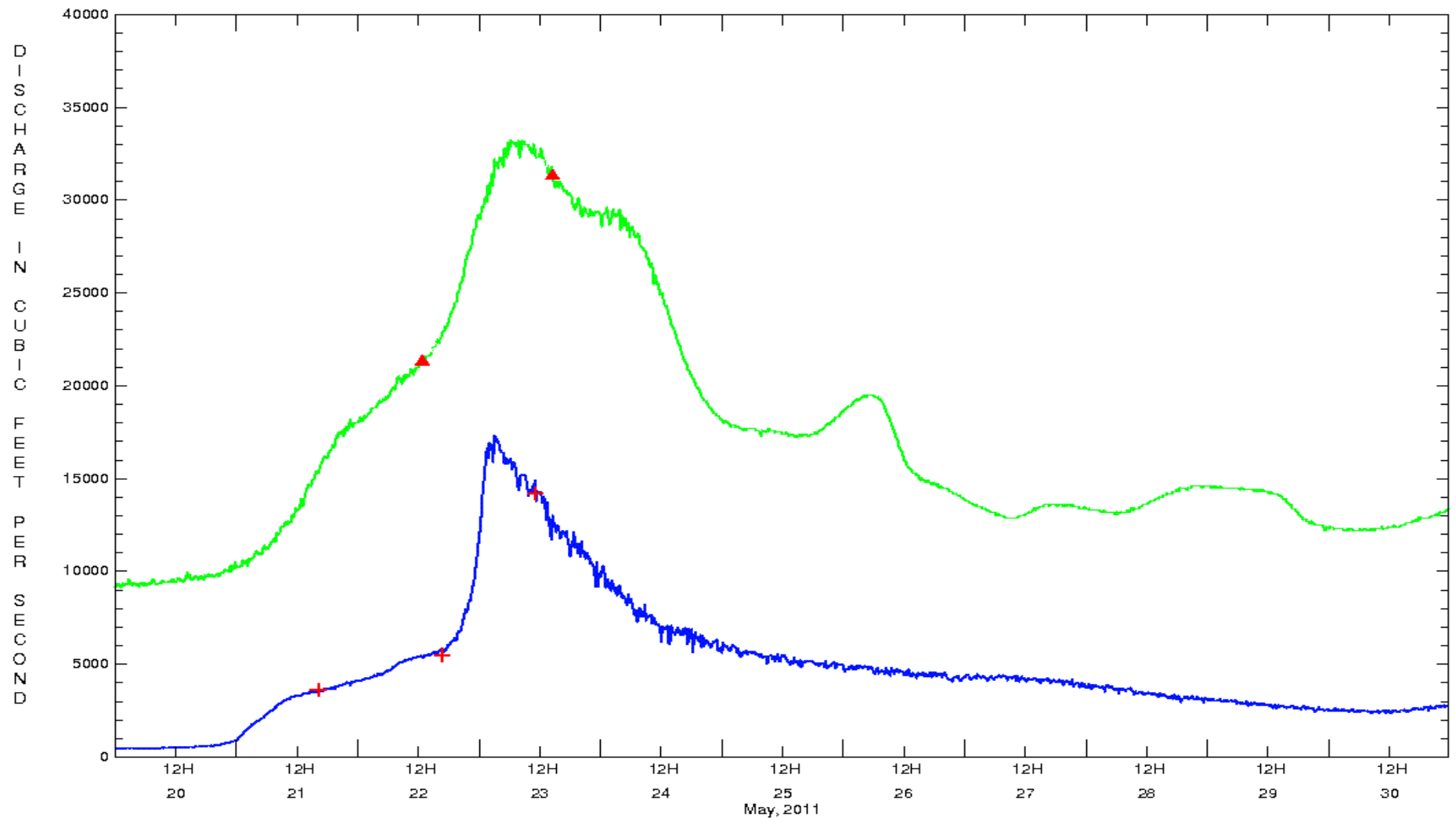
24,100 ft<sup>3</sup>/s on May 21, 2011

5<sup>th</sup> highest of 72 years of record

# May 21 and 22 Precipitation Events in the Bighorn Basin



# May 21 runoff event on Bighorn River Drainage



06294000 Little Bighorn River near Hardin, MT  
 06294500 Bighorn River at Tullock Cr nr Bighorn, MT  
 06294000 Little Bighorn River near Hardin MT (Measured Discharge)  
 06294500 Bighorn River at Tullock Cr nr Bighorn MT (Measured Discharge)

Little Bighorn River near Hardin on May 23, 2011



Bighorn River above Tullock Creek, near Bighorn on May 22, 2011



# Bighorn River Basin Flows

## Little Bighorn River near Hardin

17,300 ft<sup>3</sup>/s on May 23, 2011

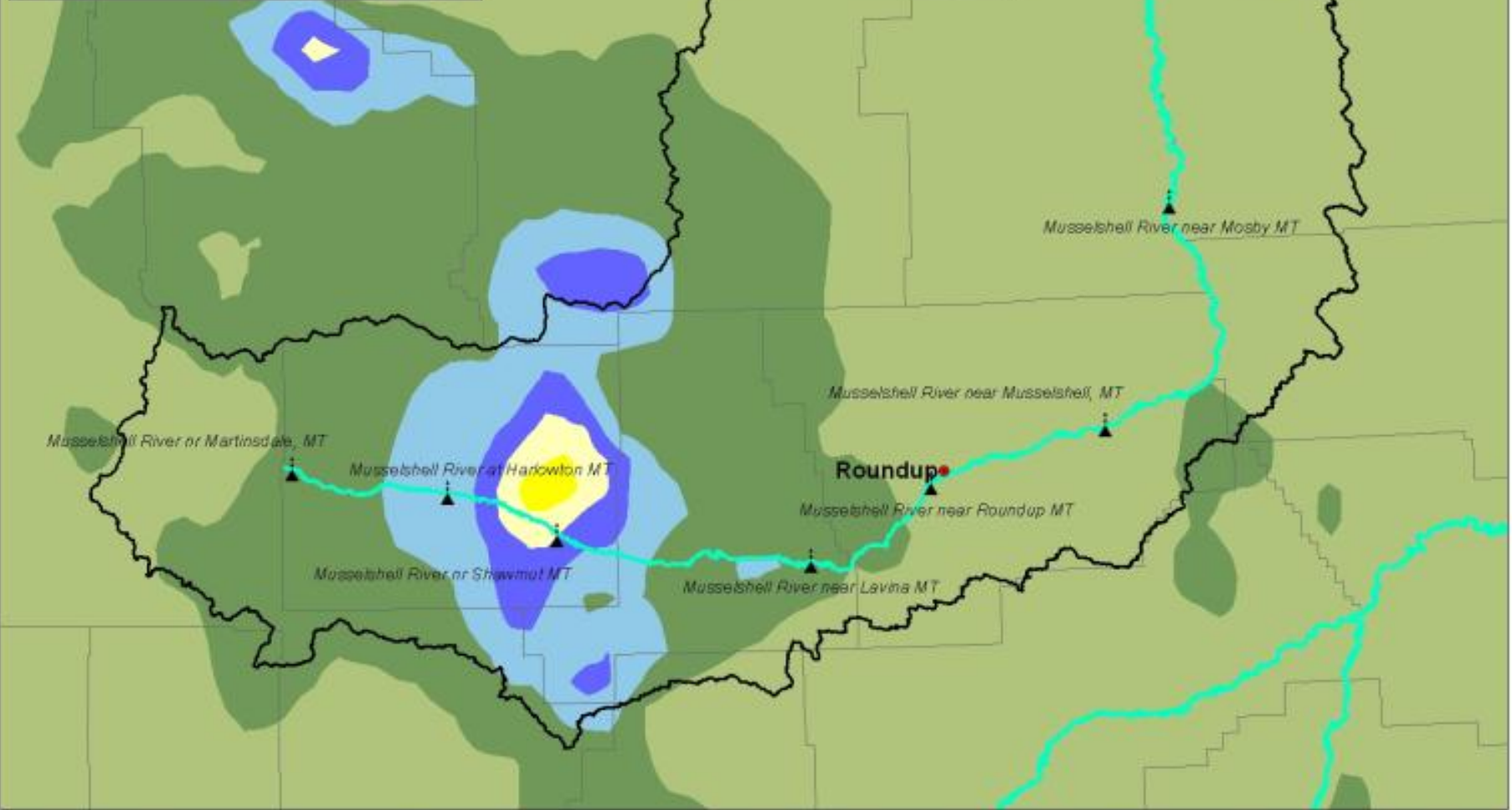
2<sup>nd</sup> highest in 57 years of record

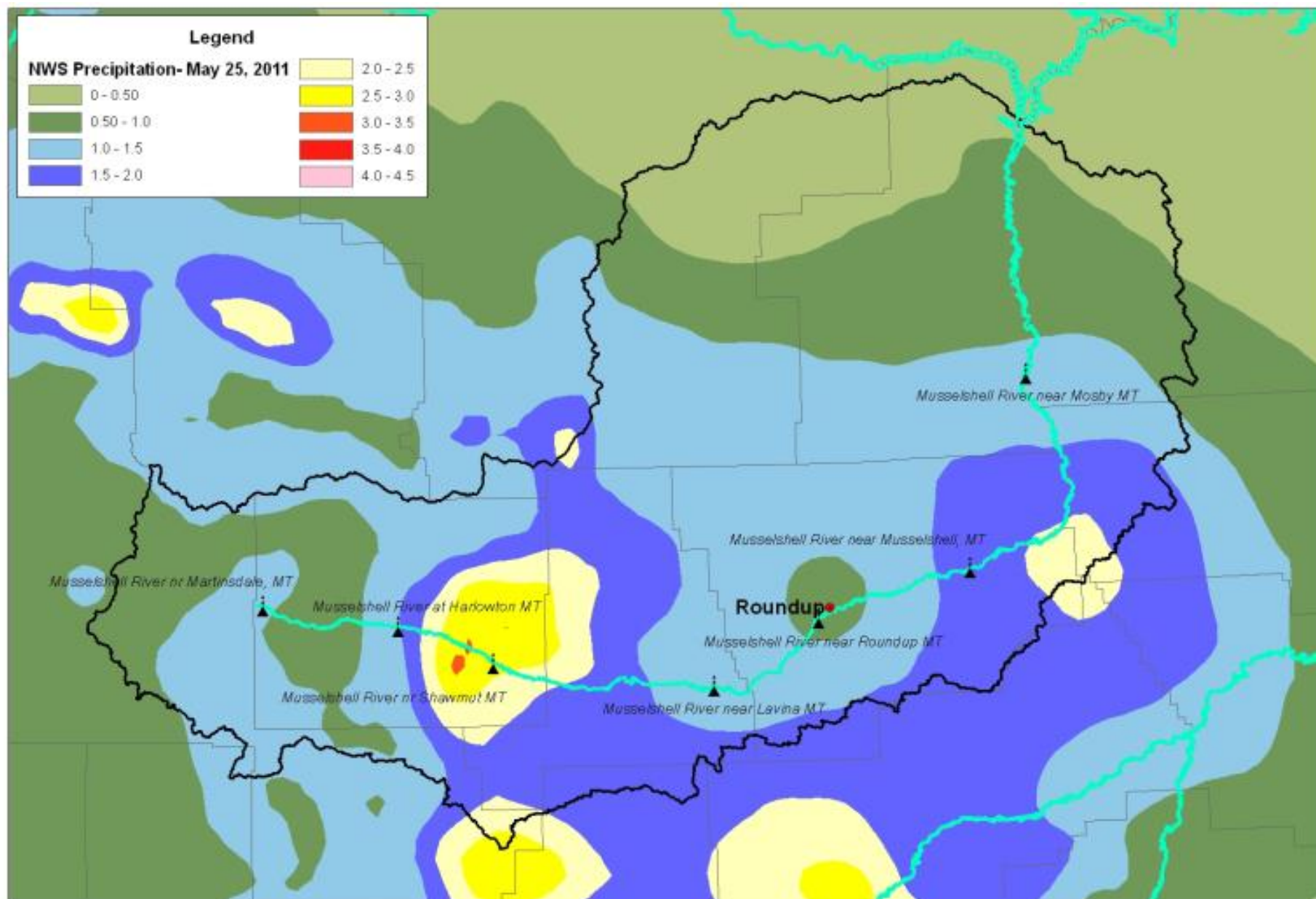
## Bighorn River above Tullock Creek, near Bighorn

33,200 ft<sup>3</sup>/s May 23, 2011

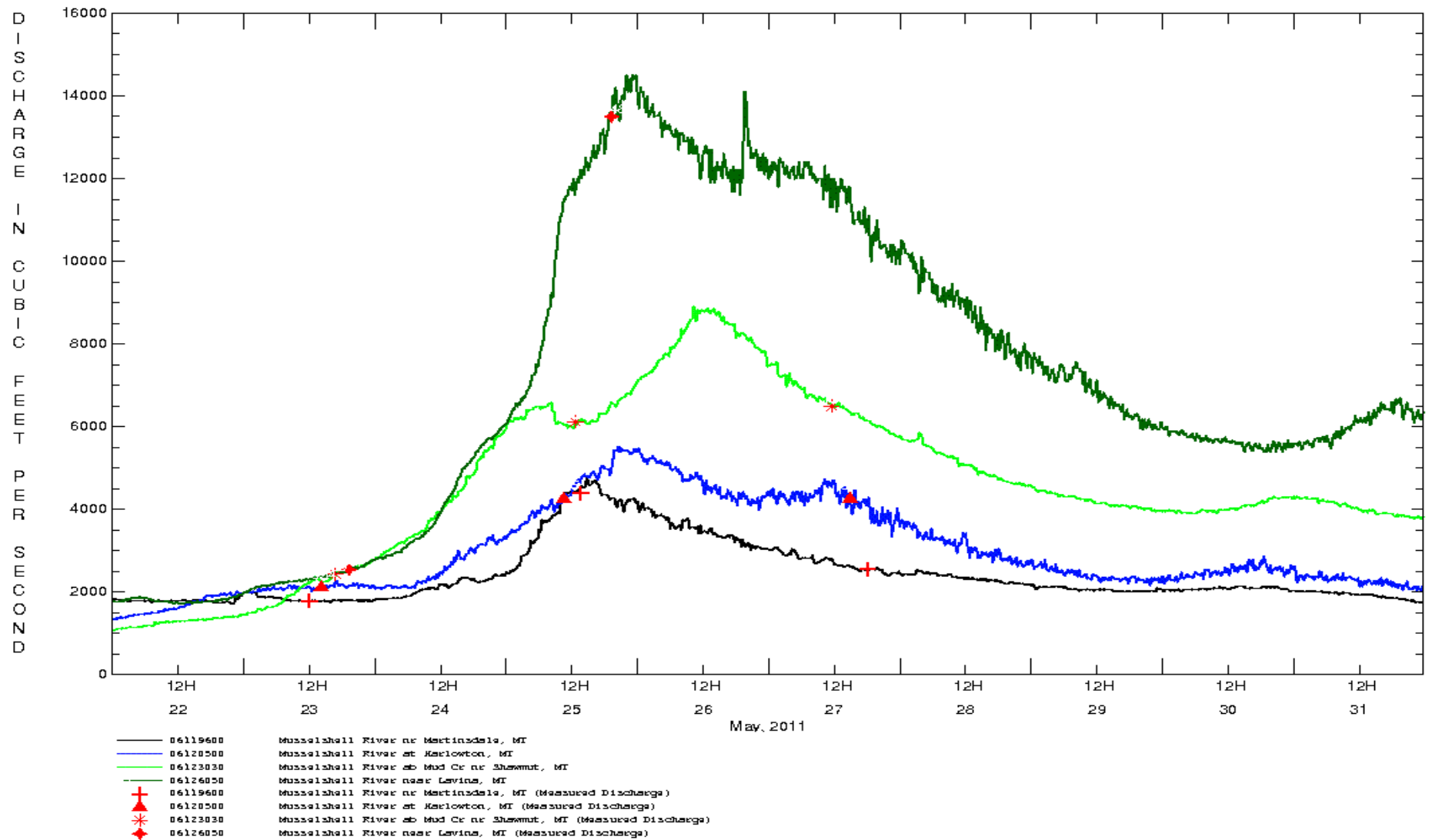
2<sup>nd</sup> highest in 66 years of record

# May 24 and 25 Precipitation Events in the Musselshell Basin

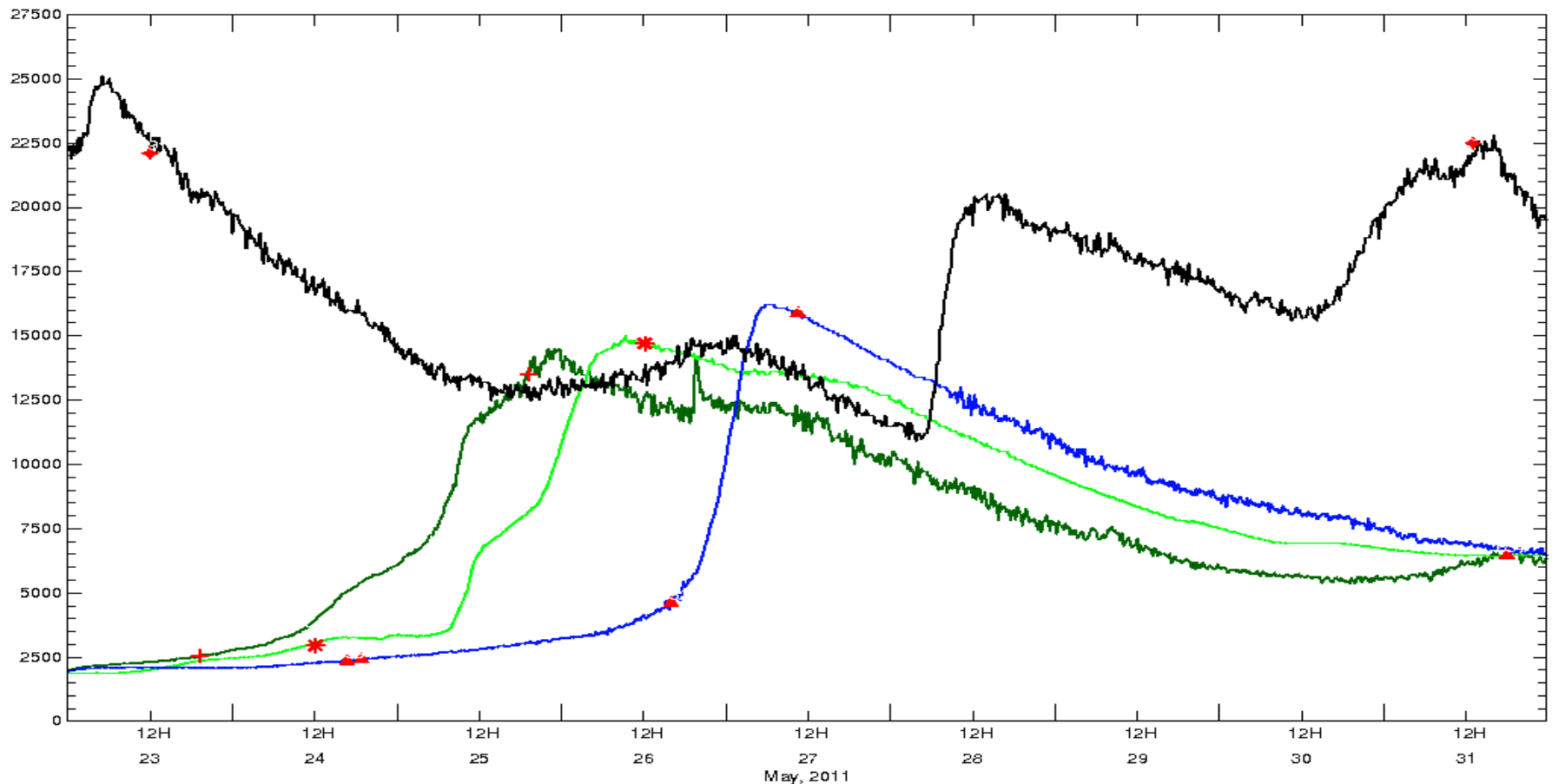




# May 24 runoff event on the Upper Musselshell River



# May 24 runoff event on the Lower Musselshell Rivers



—	06126050	Musselshell River near Lavina MT (Discharge (cfs), COMPUTED) ^ 1
—	06126500	Musselshell River near Roundup MT (Discharge (cfs), COMPUTED) ^ 1
—	06127500	Musselshell River at Musselshell MT (Discharge (cfs), COMPUTED) ^ 1
—	06130500	Musselshell River at Mosby MT (Discharge (cfs), COMPUTED) ^ 1
+	06126050	Musselshell River near Lavina MT (Measurement discharge)
*	06126500	Musselshell River near Roundup MT (Measurement discharge)
*	06127500	Musselshell River at Musselshell MT (Measurement discharge)
♦	06130500	Musselshell River at Mosby MT (Measurement discharge)

# Musselshell River near Martinsdale on May 23, 2011



# Musselshell River at Harlowton on May 23, 2011



## Musselshell River near Lavina on May 26 and June 16, 2011



# Musselshell River at Musselshell on May 27, 2011



# Musselshell River near Mosby on May 23, 2011



# Musselshell River Basin Flows

## Musselshell River near Martinsdale

4,780 ft<sup>3</sup>/s on May 25, 2011

Highest in 9 years of record

## Musselshell River at Harlowton

5,520 ft<sup>3</sup>/s May 25, 2011

2<sup>nd</sup> highest in 64 years of record

## Musselshell River above Mud Creek, near Shawmut

8,900 ft<sup>3</sup>/s May 25, 2011

Highest in 12 years of record

## Musselshell River near Lavina

14,500 ft<sup>3</sup>/s May 25, 2011

Highest in 19 years of record

# Musselshell River Basin Flows

## Musselshell River near Roundup

15,000 ft<sup>3</sup>/s on May 26, 2011

Highest in 64 years of record

## Musselshell River at Musselshell

16,200 ft<sup>3</sup>/s May 27, 2011

Highest in 66 years of record

## Musselshell River near Mosby

25,100 ft<sup>3</sup>/s May 23, 2011

Highest in 79 years of record